

10th Deep-Sea Biology Symposium

Oregon Coast, U. S. A. August 25-29, 2003



Venue & Organization



Travel & Lodging



Provisional Program



Talks & Posters



Excursion & Socials



Registration Form



Participants



Site Design: [Splint webdesign](http://splintwebdesign.com)

10th Deep-Sea Biology Symposium

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Venue

The 10th Deep-Sea Biology Symposium will be held in Coos Bay, Oregon from August 25-30, 2003. It will be hosted by the Oregon Institute of Marine Biology (University of Oregon). Oral presentations and poster sessions will be in the 500-seat performing arts center on the Campus of Southwestern Oregon Community College. This modern campus lies in coniferous forest on the shore of Empire Lake, within the Coos Bay city limits and just minutes away from the city of North Bend and the fishing village of Charleston. The meeting will include an opportunity to socialize on the OIMB campus in Charleston and a trip down the scenic Southern Oregon Coast, terminating in a jet boat trip on the wild and scenic Rogue River.



Southwestern Oregon Community College Performing Arts
Center on Empire Lake



Breakfasts and lunches will be available at a reasonable price in the conference center on campus. The conference venue is within walking distance of pizza parlors, a mexican restaurant, hamburger joints, etc., but several miles away from the nearest bars and better restaurants where one might wish to socialize in the evenings. There is no public transportation except for taxis. We plan to provide an evening bus service (at a nominal charge to users) that will carry people to and from eating areas, but strongly recommend that delegates rent cars wherever possible.



Oregon Institute of Marine Biology

The coast and mountains of southern Oregon boast some of the most dramatic scenery in the United States. The spectacular rocky shores at Sunset Bay, Shore Acres and Cape Arago are just a few minutes from the Oregon Institute of Marine Biology. South Slough National Estuarine Research Reserve, the first protected estuarine watershed in the United States, is immediately adjacent to the OIMB campus and offers excellent canoeing and kayaking. The Oregon Dunes National Recreation Area, a 50-mile stretch of enormous sand dunes and beaches, lies just to the north of Coos Bay. Scenic rivers popular with trout and salmon fishermen (the Coquille, Coos, Umpqua, Sixes, Elk, Rogue, Siuslaw) are nearby, and there are wonderful opportunities for hiking and camping in the Siskyou and Cascade ranges. Crater Lake National Park is about 4 hours by car from the conference venue and Redwood National Park in Northern California is about 3 hours away.



Organizing Committee

Prof. Craig Young (University of Oregon), chair
Dr. Sandra Brooke (University of Oregon)
Prof. Anna-Louise Reysenbach (Portland State University)
Prof. Emeritus Andrew Carey (Oregon State University)
Prof. Robert Y. George (Univ. of N. Carolina, Wilmington)
Prof. Paul Tyler (Southampton Oceanography Centre)

Registration and payment of fees

It is preferred that delegates register over the internet by filling out and submitting the form at this site. Alternatively, the form may be printed out and faxed to Craig Young at 541-888-3250. Payment must be made in U.S. funds by check or direct bank transfer. Credit card numbers cannot be accepted. Details of costs and payment methods are found on the registration form. Registration fees include the cost of the excursion and river trip, the program, some transportation costs, the opening reception and coffee breaks. The banquet, which will be an outdoor affair at OIMB with excellent food and drink, is priced separately.

The deadline for early registration is June 1 and abstract submission is May 15, 2003. Abstracts will not be accepted after this date. Late registration will incur a slightly higher fee. In the event that a delegate finds it necessary to

withdraw, fees will be refunded in full until August 1; later withdrawals will be dealt with on a case-by-case basis, with the amount refunded dependent on expenditures that have already been made.

Themes

Oral contributions and posters in any field of deep-sea biology are welcome, but we expect to organize some sessions around the following thematic areas, all of which have been suggested by delegates:

- Human impacts and exploitation of the deep sea
- Reproduction and recruitment
- Experimental community ecology
- Physiological ecology of deep-sea and midwater animals
- Biology of the deep Gulf of Mexico
- History of deep-sea biology
- Population dynamics and genetics
- Benthic-pelagic coupling

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Travel

Most major North American airlines serve Portland Airport (PDX), which is about 5 hours by automobile from the conference venue in Coos Bay. [Horizon Air](#), a subsidiary of Alaska Air, makes several flights per day to and from North Bend, just 10 minutes from the conference venue. These planes are small (30 passenger), so we strongly advise that flights are booked well in advance. Horizon Air also flies from Portland to Eugene, which is about two hours away from Coos Bay over very scenic mountain roads. [United Airlines Express](#) serves Eugene directly from San Francisco and Portland.

All major car rental agencies may be found in the Portland airport, and most are also represented in Eugene. Only a single national agency, Hertz, is found in the North Bend Airport, and their rental cars are very expensive. However, a local car dealership, [Verges Chrysler](#), also provides cars at the North Bend airport, at very reasonable rates.

Lodging Options

Several lodging options are available at a range of prices and levels of convenience. Although there are many hotels and motels in the Coos Bay/North Bend/Charleston area, none is within easy walking distance of the conference venue. Individuals without cars will find it most convenient to stay on the Southwestern Oregon Community College campus. All of the hotels are within walking distance of eating and drinking establishments, but the SWOCC dorms are not. We plan to provide a shuttle bus service to carry on-campus residents to and from the downtown areas for evening meals and entertainment. However, if you are able to bring a car or rent a car, we encourage you to do so!

Southwestern Oregon Community College:



Inexpensive on-campus housing is available for up to 250 people (double occupancy) or 135 people (single occupancy) within 100 to 300 m of the conference venue. The housing units are fully furnished apartments, each having four single-occupancy or double-occupancy bedrooms, a kitchen, living room, dining room, balcony or deck, and two shared bathrooms. Towels and linens are included, and coin operated washing machines and dryers are available nearby. The apartment buildings are nestled in an evergreen forest near Empire Lakes and an easy stroll to the conference venue. For additional information, see the following web site: http://www.southwestern.cc.or.us/student_life/housing/housing Apt.html. We recommend this housing option for individuals who do not have their own transportation or a rental car. Prices are as follows:

\$26.00 per night single occupancy

\$21.00 per night double occupancy

To book one of these units, please fill out the housing application, requesting your first and second choice housing options, and include the \$50.00 housing deposit with your registration fee. The balance of your housing charges will be due upon arrival at the meeting.

Oregon Institute of Marine Biology:



Inexpensive housing for up to 60 people is available in the dormitories and cottages at Oregon Institute of Marine Biology . Approximately 20 private (single or double occupancy) rooms are available in the graduate dorms and cottages, and an additional 20 beds are available in the undergraduate dorms. The latter consist of open lofts with individual living areas delimited by furniture (beds, desks, book shelves, wardrobes) and with large shared bathroom facilities. Individuals staying at OIMB will find rental cars to be useful, though we can probably arrange rides for some residents with OIMB faculty and students. Prices are as follows:

\$20.00 per night for a not-very-private bed in an undergraduate dorm

\$25.00 per night for a private room in a shared cottage or graduate dormitory

\$15.00 per person per night, double occupancy room in a shared cottage room

To book one of these rooms, please submit the housing form indicating your first and second housing options, and include the \$50.00 housing deposit with your registration fee. The balance of your housing charges will be due upon arrival at the meeting.

Hotels and Motels:

There are numerous motels and hotels in the North Bend/ Coos Bay area, all of which are several kilometers from the conference venue. Three motels of excellent quality have offered special rates for the conference attendees. To book rooms at the discounted rates, please contact the hotels directly, mentioning the the Deep-Sea Biology Symposium sponsored by the University of Oregon. As late August is the busiest part of the tourist season, we recommend that you book rooms well in advance.

Ramada Inn North Bend

1503 Virginia Avenue, North Bend, Oregon 97459

reservations: 541-756-3191 or 800-272-6232

fax: 541-756-5818

<http://www.the.ramada.com/northbend13189>

This is a newer hotel approximately 2 miles from the conference and within easy walking distance of a variety of restaurants and bars in North Bend. The facility has a bar, restaurant and exercise room on site. They are offering a special rate of \$55.00 per night for a room with one king-sized bed or two-queen sized beds (regular rate: \$92.00 to \$112.00), accommodating up to two people. As this is their academic rate, be sure to mention the University of Oregon or Southwestern Oregon Community College when booking.

Red Lion Hotel, Coos Bay

1313 North Bayshore Drive, Coos Bay, Oregon 97420

Reservations: 541-267-4141 or 800-733-5466

Fax: 541-267-2844

<http://www.redlion.com/WHC/hotels/ShowHotel.asp?ID=154>

The Red Lion is a hotel of excellent quality on the main road (Hwy. 101) through Coos Bay. It is approximately 3 miles from the conference venue and 6 blocks from eating and drinking establishments downtown. The hotel has 143 rooms, of which 30 have been reserved for conference participants at a special rate of \$64.00 per night. Each room can accommodate up to 4 people in two queen-sized beds or 2 people in one king-sized bed. Their regular rates at this time of year are approximately \$80.00. An outdoor heated pool, jacuzzi and exercise room are available on site. To obtain the special rate, call the hotel directly (not the 800 number) and mention the Deep-sea Biology Symposium.

Edgewater Inn, Coos Bay

275 E. Johnson Avenue, Coos Bay, Oregon 97420

Reservations: 541- or 800-233-0423

<http://www.theedgewaterinn.com/>

The Edgewater Inn is a new hotel adjacent to Hwy. 101 and just a few blocks from downtown Coos Bay, about 4 miles from the conference venue. It has large rooms with two queen-size beds, and also boasts an indoor pool, spa and exercise room. The hotel is offering a group rate of \$60.00 per room for conference attendees. Their normal rate for this time of year is \$88.00.

Mill Hotel

3201 Tremont Ave., North Bend, Oregon 97459

Reservations: 541-756-8800 or 800-953-4800

<http://www.themillcasino.com/lodging.htm>

This 3-year-old hotel is connected to a large casino run by the Coquille Indian Tribe on the shore of Coos Bay. It is the closest hotel to the SWOCC campus (1.6 miles, partly uphill in both directions). It offers high quality rooms with king-size or queen-sized beds and data ports, some with in-room jacuzzis. Restaurants, bars and a large casino are within a few steps of the rooms. The Mill Hotel charges \$119.00 for a non-smoking room with two queen-sized beds and a view of the bay. Rooms without views are slightly less.

Driving Distances

The following table shows driving or walking distances from the various housing units to the conference venue (SWOCC) and to the downtown restaurant and bar areas of Coos Bay, North Bend and Charleston.

LODGING	Conference (SWOCC)	Downtown North Bend	Downtown Coos Bay	Charleston Town Center
SWOCC apartments	100-300 meters	2.6 miles	3.4 miles	6.2 miles
OIMB cottages, dorms	6.4 miles	9.0 miles	8.0 miles	0.2 miles
Ramada Inn	2.2 miles	0.4 miles	2.9 miles	8.4 miles
Red Lion Hotel	2.9 miles	2.0 miles	0.5 miles	9.1 miles
Edgewater Inn	4.2 miles	3.5 miles	0.5 miles	8.5 miles
Mill Hotel Casino	1.6 miles	0.7 miles	1.8 miles	8.0 miles

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Sunday, August 24

18:00-21:30 Registration desk open at the SWOCC performing arts center.

Monday, August 25

8:00-9:00 Registration desk open (also open during breaks throughout the day)

9:00 **Young, C.M.** Welcome to Oregon and general introduction.

Session 1. Physiological ecology of deep-sea and midwater organisms

Chairpersons: Ben Wigham, Jorundur Svavarsson

9:15 **Bailey, D.M., P.M. Bagley, A.J. Jamieson, A. Cromarty, M.A. Collins, B. Genard, J.-F. Rees, A. Tselepidis and I.G. Priede.** Integrated studies of deep-sea animal physiology and activity: experiments on the eel *Synaphobranchus kaupii* and the shrimp *Acantheephyra eximia*.

9:30 **Genard, B., A. Dekerchove, D.M. Bailey, S. Dupont, M.A. Collins, I. G. Priede and J.-F. Rees.** Seasonal, ontogenical and depth-dependent variations in metabolic enzyme activities and protein content in muscles of deep-sea demersal fish.

9:45 **Bernhard, J.M. and S.S. Bowser.** The peroxisome puzzle: do foraminifers living in sulfide-enriched sediments respire using peroxisomal oxygen?

10:00 **Wigham, B.D., B.J. Bett, D.S.M. Billett and A.J. Gooday.** Patterns of megabenthic community structure and activity in relation to oxygen minima on the Oman continental slope, NW Arabian Sea.

10:15 **Kemp, K., A. Jamieson, P.M. Bagley and I.G. Priede.** Physical time signals in the deep sea, and the behavioural and physiological response of the fish community.

10:30 Refreshment Break

11:00 **Stowasser, G., R. McAllen, G.J. Pierce, C.F. Moffat, M.A. Collins and I.G. Priede.** Fatty acids and stable isotopes: a new approach to the trophic ecology of the deep-sea ichthyofauna.



11:15 **De Kerchove, A, B. Genard, M.A. Collins, I.G. Priede and J.-F. Rees.** Muscles metabolic enzymes and swimming speeds in *Antimora rostrata* and *Coryphaenoides* (N.) *armatus*, two deep-sea demersal fish.

11:30 **Jörundsdottir, K. and J. Svavarsson.** Eyelessness among the Gnathiidae (Crustacea, Isopoda).

11:45 **Herring, P.J., E.A. Widder and C. Cope.** Fishes with red lights: different structures, different mechanisms.

12:00 **Battle, E.J.V., M.A. Collins, J.C. Partridge, P.M. Bagley and I.G. Priede.** Observations of pelagic and benthic deep-sea bioluminescence in the North East Atlantic Ocean using an ISIT camera.

12:15 Lunch

Session 2. Physiology and ecology of vent and seep organisms.

Chairpersons: Jozee Sarrazin, Yoshihiro Fujiwara

13:15 **Prieur, D., D. Flament, G. Henneke, G. Erauso, C. Geslin, E. Jolivet, M. Le Romancer, S. Lucas, V. Marteinsson, J.-P. Raffin and J. Querellou.** New biological microbial models from deep-sea hydrothermal vents.

13:30 **Le Bris, N., M. Zbinden, P.-M. Sarradin and F. Gaill.** Chemical constraints in the *Alvinella pompejana* environment: new insights.

13:45 **Skebo, K.** Distribution of zooplankton and nekton above hydrothermal vents on the Juan de Fuca and Explorer Ridges.

14:00 **Fujiwara, Y., M. Kawato, K. Uematsu, S. Arakawa, T. Miwa, Y. Suzuki, T. Sato and C. Kato.** Dual "symbiont transmission mechanisms" of a hadal thyasirid clam, *Maorithyas hadalis*.

14:15 **Yancey, P.H., N.K. Rosenberg, R.W. Lee, K.M. Kemp and D.M. Bailey.** Unusual organic osmolytes in abyssal and hydrothermal-vent animals: adaptations to hydrostatic pressure and sulfide metabolism?

14:30 **Dreyer, J. and C.L. Van Dover.** Time-series comparison of hydrothermal-vent mussel bed communities on the East Pacific Rise between 1999 and 2001.

14:45 **Sarrazin, J., S.K. Juniper, C. Levesque, M.K. Tivey, G. Massoth and P. LeGendre.** Mosaic community dynamics on Juan de Fuca Ridge sulfide edifices: refining a model of community succession.

15:00 **Levin, L.A., W. Ziebis and G. Mendoza.** Metazoan response to sulfide stress at Pacific methane seeps: distribution, community structure, nutrition, and recruitment.

15:15 Refreshment Break

Session 3. Methods, approaches and tools in deep-sea research

Chairperson: Karen Stocks

15:45 **Horton, T. and Bett, B.** A comparative trial of macrobenthos samplers—the box corer versus the megacorer.

16:00 **Jamieson, A., P.M. Bagley, D. Bailey, M.A. Collins and I.G. Priede.** Benthic-pelagic fish behavioural responses to autonomous lander platforms.

16:15 **Bagley, P.M, A. Jamieson, E. Battle, D. Bailey, M. Player and I.G. Priede.** New approaches to observations of deep-sea mid-water fauna using free-fall, profiler and drifter vehicles.

16:30 **Grassle, J.F., Y. Zhang and K. Stocks.** The ocean biogeographic information system: a new tool for deep-sea biology.

16:45 **Billett, D.S.M.** Deep-sea sediment biodiversity: results of the Census of Marine Life Hatfield Workshop.

17:15-19:00 Welcoming reception (Lakeview Rooms in the SWOCC Performing Arts Center).

18:00-21:30 Shuttle transportation to downtown Coos Bay, Charleston and North Bend.

Tuesday, August 26

Session 4. Human impacts and marine protected areas.

Chairpersons: Hjalmar Thiel, Bob George

8:30 **Blake, J.A., N.J. Maciolek and I.P. Williams.** Rapid recolonization of infaunal benthos at a deep-sea disposal site.

8:45 **Narayanaswamy, B.E. and J.D. Gage.** Time-series monitoring of deep-water environments.

9:00 **Barry, J.P., J.C. Drazen, K.R. Buck, B.A. Seibel, M.N. Tamburri, C. Lover and L. Kuhn.** Field experiments on the biological impacts of deep-sea CO₂ injection.

9:15 **Thistle, D., K.R. Carman, L. Sedlacek, J.P. Barry, P.G. Brewer and J.W. Fleeger.** Consequences for the deep-sea fauna of injection of liquid carbon dioxide: preliminary results.

9:30 **Baker, K. and R.L. Haedrich.** Could some deep-sea fishes be species-at-risk?

9:45 **Stocks, K.I. and G.W. Boehlert.** Seamounts and submarine canyons: the known, the unknown, the unknowable, and future steps.

10:00 **Schlacher, T.A., M.A. Schlacher-Hoenlinger, B.R. De Forges and J.A. Hooper.** Elements of richness and endemism in sponge assemblages on seamounts.

10:15 **Howard, C.** APEC Fisheries Working Group and deep-sea fisheries.

10:30 Refreshment Break

11:00 **George, R.Y.** Deep-sea Lophelia coral reefs and gorgonian forests in the North Atlantic Ocean as marine protected areas.

11:15 **Colaço, A, F. Tempera, F. Cardigos and R. Serrão Santos.**
Offshore marine protected areas on the Azores: why, where and what for?

11:30 **Christiansen, S.** Tackling the conservation of deep-sea biota—the way forward.

11:45 **Gianni, M.** Seamounts and the biodiversity of the Deep Sea: United Nations General Assembly initiatives to protect the wealth of species on the high seas.

12:00 **Thiel, H.** Protection of high-seas areas—status report.

12:30 lunch

Session 5. Benthic-pelagic coupling: Short-term responses.

Chairperson: Ursula Witte

13:30 **Witte, U.** The fate of organic carbon settling at the deep-sea floor: an experimental approach.

13:45 **Sommer, S.** Meiobenthic response to the pulsed deposition of phytodetritus—an in situ experiment in the Porcupine Abyssal Plain.

14:00 **Buehring, S.I., N. Lampadaïou, L. Moodley, A. Tselepides and U. Witte.** Benthic response to varying food input: in situ experiments in the oligotrophic Mediterranean.

14:15 **Aspetsberger, F., A. Ahke, T. Ferdelman, M. Zabel and U. Witte.** Influence of organic carbon quality on benthic mineralization: in situ experiments in a high-productivity area.

14:30 **Gage, J.D., R.D. Anderson, P.A. Tyler, R. Chapman and E. Dolan.** Ravenous for phytodetritus: can brittle star opportunists prevent phytodetrital mass accumulation in the N.E. Atlantic?

14:45 **Billett, D.S.M., B.J. Bett and B.D. Wigham.** Jelly lakes in the abyssal Arabian Sea—massive food falls?

15:00 **Debenham, N.J., P.J.D. Lambshead, T.J. Ferrero and C.R. Smith.** Do whale fall events increase nematode abundance?

15:15 **Hughes, D.J., L. Brown, G.T. Cook, G. Cowie, J.D. Gage, E. Good, H. Kennedy, A.B. MacKenzie, S. Papadimitriou, G.B. Shimmield, J. Thomson and M. Williams.** Using biology to inform geochemistry: analysis of burrow contents from two sites in the bathyal N.E. Atlantic.

15:30 Refreshment Break

Session 6. Benthic-pelagic coupling: long term responses.

Chairperson: Tassos Tselepides

16:00 **Smith, K.L. Jr., R.J. Baldwin, H.A. Ruhl, B.G. Mitchell and M. Kahru.** Climate change and benthic boundary layer processes at 4,100 m depth in the N.E. Pacific: a 13-year time-series study.

16:15 **Gooday, A.J. and G. Malzone.** Long-term (decadal) changes in 'live' benthic foraminiferal assemblages at an abyssal site in the NE Atlantic.

16:30 **Ruhl, H.A. and K.L. Smith, Jr.** Variation in deep-sea epibenthic megafauna distribution and abundance, and particle flux in the N.E. Pacific.

16:45 **Hudson, I.R., B.D. Wigham, D.S.M. Billett, D.W. Pond, P.A. Tyler and G.A. Wolff.** Deep-sea biology, food for thought? Seasonal and reproductive aspects of food availability in deep-sea holothurians.

17:00 **Tselepides, A., E. Hatziyanni, N. Lampadariou and C. Corselli.** Benthic community structure in the deep hypersaline anoxic basins of the Eastern Mediterranean Sea.

17:15 **Johnson, N.A., J.W. Campbell, T.S. Moore, C.R. McClain, M.A. Rex and M.D. Dowell.** Surface-benthic coupling and the structuring of deep-sea communities.

17:30 **Snelgrove, P.V.R., P.A. Ramey and B. Oake.** Regulation of deep, cold ocean, benthic infauna by surface processes.

Session 7. Discussion on human impacts and marine protected areas.

Discussion leaders: Hjalmar Thiel, Bob George

17:45-18:30 Open discussion for all interested participants.

18:00-21:30 Shuttle transportation to downtown Coos Bay, Charleston and North Bend.

Wednesday, August 27

Session 8: Benthic-pelagic coupling at high latitudes.

Chairperson: Paul Snelgrove

8:15 **Smith, C.R., S. Mincks, A. Glover, D.J. DeMaster and P.Y. Sumida.** Food banks of the deep Antarctic shelf: the impact and fate of summer bloom material at the seafloor.

8:30 **Galley, E., P.A. Tyler, A. Clarke and C. Smith.** Responses of benthic organisms on the deep Antarctic continental shelf to a highly seasonal food supply.

8:45 **Mincks, S.L., C.R. Smith, D.J. Demaster and C.J. Thomas.** Benthic response to seasonal phytodetritus deposition on the west Antarctic Peninsula shelf.

9:00 **Schewe, I. and Soltwedel, T.** Living on the (ice-) edge: first results from inter-annual and seasonal studies at an Arctic deep-sea benthic station.

9:15-11:45 Poster Session (and break)

12:15 Buses depart for mid-conference excursion.

12:15-13:00 Tour of Cape Arago, Simpsons Reef, Shore Acres

13:00-13:30 Buffet Lunch at Sunset Bay

13:30-15:30 Tour of southern Oregon coast, Coos Bay to Gold Beach

15:30-21:00 Rogue River mail boat run (includes dinner at Singing Springs Resort, Agness)

21:00-23:00 Bus ride home.

Thursday, August 28

Session 9. Population genetics, evolution and systematics

Chairpersons: Amy Baco, Scott France

8:15 **Rogers, A.D. and M. Le Goff.** Genetic structure of *Lophelia pertusa* populations in the NE Atlantic

8:30 **Baco, A.R.** Population genetic structure of Hawaiian precious corals using microsatellites.

8:45 **France, S.C.** Patterns of mitochondrial DNA sequence variation in deep-sea octocorals.

9:00 **Shank, T.M.** Genetic structure of nascent biological communities at Galápagos rift vent fields

9:15 **Vrijenhoek, R.** A new look at evolutionary pathways and the age of deep-sea hydrothermal vent taxa.

9:30 **Martin, J.W. and T. Shank.** Decapod crustaceans from hydrothermal vents and cold seeps: an update.

9:45 **Mah, C.** Species-level phylogenies in the Goniasteridae (Asteroidea: Echinodermata): patterns of evolution in deep-sea starfish.

10:00 **Santini, F.** Phylogeny and historical biogeography of the Triacanthodidae (Tetraodontiformes, Teleosti), with comments on the role of island arcs systems and Pleistocene sea level changes in causing the present-day distribution of this clade.

10:15 **Boyle, E.E., R.J. Etter and M.A. Rex.** Phylogeography of the deep-sea rissoid gastropod *Benthonella tenella*.

10:30 Refreshment Break

Session 10. Biology of the deep Gulf of Mexico

Chairpersons: Tracey Sutton, Charles Blend

11:00 **Schroeder, W.W.** Observations of hard substrate and epibenthic megafauna at an upper slope site in the Gulf of Mexico.

11:15 **Sutton, T., T. Hopkins and S. Burghart.** Who is eating most of the zooplankton in the oceanic Gulf of Mexico? The impact of mesopelagic fishes.

11:30 **Blend, C.K. and N.O. Dronen.** Helminth parasites of deep-sea fishes from the Gulf of Mexico and Caribbean Sea.

11:45 **Carney, R.S., S. MacAvoy, S.A. Macko and C.H. Fisher.** Isotopically traced scenarios of background/foreground trophic interaction at Gulf of Mexico hydrocarbon seeps: exporting or importing?

12:00 **Rowe, G., J. Morse, M. Wicksten, J. Deming, E. Escobar Briones, R. Haedrich and P. Montagna.** Structure and function of benthic communities in the deep Gulf of Mexico.

12:15 **Wilson, G.D.F.** Benthic isopod diversity in the Gulf of Mexico.

12:30 lunch

Session 11. Patterns of abundance and diversity

Chairpersons: Angelika Brandt, Kurt Buck

13:30 **Rex, M.A., C.R. McClain and N.A. Johnson.** A source-sink hypothesis for abyssal biodiversity.

13:45 **Brenke, N.** Faunal diversity and zoogeography of the abyssal asellota (Crustacea: Isopoda) in the Southeast Atlantic deep sea.

14:00 **Brandt, A., H.-G. Andres, N. Brenke, S. Brix, J. Guerrero-Kommritz, U. Mühlenhardt-Siegel and W. Wägele.** Abundance, diversity and community patterns of peracarid crustaceans (Malacostraca) from the abyssal plain of the Angola Basin.

14:15 **Gage, J.D., P.J.D. Lambshead, J.D.D. Bishop, N.S. Jones and B.E. Narayanaswamy.** Large-scale biodiversity pattern of cumacea in the deep Atlantic.

14:30 **VanReusel, A., A. Muthumbi, M. Raes, S. Van Gaever, S. VanHove and H. Vermeeren.** High nematode species diversity in the deep sea: correlations and causes for diversification within genera?

14:45 **Glover, A.G., C.R. Smith, G.L.J. Paterson and G.D.F. Wilson.** The worm's turn: species diversity on the Central Pacific Abyssal Plain.

15:00 **Haddock, S.H.D.** Natural history of deep-sea tuscatorid radiolarians.

15:15 **Buck, K.R., K.R. Carman, D. Thistle, L. Kuhnz, C. Lovera and J. P. Barry.** Sediment standing stocks from an abyssal site in Monterey Canyon, California.

15:30 **Rowden, A.A., M.R. Clark, S. O'Shea and D.G. McKnight.**

Biodiversity of the Kermadec Volcanic Arc seamounts: an opportunity to answer long-asked questions.

15:45 Refreshment Break

Session 12. History of deep-sea biology.

Chairperson: Craig Young

16:15 **Campos-Creasey, L.S, H.P. Lavrado, P. Costa and A.P.C. Falcão.**
Brazilian deep-sea biology research: a recent history overview.

16:30 **Wolff, T.** The Danish Dana Expeditions: Purpose and Accomplishments.

17:00 **Morita, R.Y.** Early and recent history of deep-sea microbiology.

18:15 Buses depart for Banquet at OIMB

Friday, August 29

Session 13. Reproduction, development and larval biology.

Chairpersons: Eva Ramirez, Florence Pradillon

9:00 **Drazen, J.C., S.K. Goffredi, B. Schlining and D.S. Stakes.**
Aggregations of egg brooding deep-sea fish and cephalopods on the Gorda Escarpment: a reproductive hotspot.

9:15 **Voight, J.R.** The biggest baby octopus in the world: hatchlings of *Graneledone*.

9:30 **Benitez Villalobos, F. and P.A. Tyler.** Temperature and pressure tolerances of embryos and larvae of the Atlantic seastar *Asterias rubens* (Echinodermata Asteroidea): potential for deep-sea invasion from shallow water.

9:45 **Brooke, S.D. and C.M. Young.** Embryogenesis and larval biology of the ahermatypic scleractinian coral *Oculina varicosa*: implications for ecosystem recovery.

10:00 **Hilario, A., P.A. Tyler and C.M. Young.** Why do female vestimentiferans store sperm?

10:15 **Järnegren, J., C.M. Young, C.R. Tobias and S.A. Macko.**
Oophagous lifestyle in *Acesta bullisi*, a bivalve associated with cold-seep tube worms

10:30 Refreshment Break.

11:00 **Waller, R.G. and P.A. Tyler.** The reproductive ecology of two deep-water reef building corals in the N.E. Atlantic Ocean.

11:15 **Tyler, P.A., E. Dolan, M. Baker and C.M. Young.** Gametogenic periodicity in the genus *Bathymodiolus*.

11:30 **Howell, K.L., A.D. Rogers, P.A. Tyler and D.S.M. Billett.**

Reproductive isolation among morphotypes of the Atlantic seastar species *Zoroaster fulgens* (Asteroidea: Echinodermata).

11:45 **Geiger, D.L. and C.L. Thacker.** Colonization patterns of the deep sea: insights from basal snails (Vetigastropoda) using molecular phylogenetics.

12:00 **Pradillon, F., M. Zbinden and F. Gaill.** Reproductive patterns in *Alvinella pompejana* (Polychaeta: Alvinellidae) colonies from 9oN and 13oN EPR hydrothermal vents.

12:15 Lunch

Session 14. Distribution and Zonation

Chairpersons: Gritta Veit-Köhler, Craig McClain

13:15 **C.G. Messing.** Biozonation on deep-water carbonate mounds and associated hardgrounds along the western margin of Little Bahama Bank, with notes on other deep Bahamian bank-margin assemblages.

13:30 **Osborn, K.** Distribution and feeding of munnopsid isopods in the deep water column of the Gulf of California, Mexico.

13:45 **Veit-Köhler, G.** Typical shallow water Copepoda Harpacticoida in the Atlantic deep sea.

14:00 **Yeh, H.M. and S. Ohta.** Modified concept of faunal zonation suggested from the horizontal and vertical trend of zonation of deep-sea demersal fish around Japan.

14:15 **Henriques, C., I.G. Priede, M.A. Collins and P.M. Bagley.** Scavenging fishes of the deep Eastern Atlantic Ocean: a comparison of behaviour and distribution at latitudes 49oN to 10oS

14:30 **Ingole, B.** Distributional Pattern of Deep-sea Macrofauna in the Indian Ocean.

14:45 **Moore, J.A.** Biogeography of the deep-sea fish fauna off New England.

15:00 **McClain, C.R.** A new hypothesis for bathymetric size clines in the deep sea.

15:15 Refreshment Break

Session 15. Cold seeps and allied ecosystems.

Chairperson: Thomas Soltwedel

15:45 **Soltwedel, T., N.-V. Quéric & I. Schewe.** Gradients in activity and biomass of the small-sized benthic biota around the Håkon Mosby Mud Volcano, SW Barents Sea slope.

16:00 **Sibuet, M., J.C. Caprais, P. Crassous, S. Duperron, M.C Fabri, A. FIFIS, J. Galéron, A. Khripounoff, L. Menot, T. Nadalig, K. OLU-Le**

Roy, A. Vangriesheim, A. Andersen, and R. Von Cosel. Rich and complex deep sea ecosystems on the equatorial African margin: general objectives and results of the BIOZAIRE environmental program.

16:15 Olu-LeRoy, K., T. Nadalig, J.C. Caprais, A. Fifis, M.C. Fabri, H. Ondréas and M. Sibuet. Spatial variability of the chemosynthetic fauna, chemical environment and microbial communities on a giant pockmark in the Gulf of Guinea.

16:30 Galeron, J., N. Cam, J.C. Caprais, P. Crassous, M.C. Fabri, A. Fifis, A. Khripounoff, L. Menot, M. Moison, T. Nadalig, K. Olu, M. Sibuet and A. VanGriesheim. Macrofauna communities in detritic and chemosynthetic based ecosystems in the Gulf of Guinea.

16:45 Mills, A., C. Ruppel and C.L. Van Dover. Windows to the deep: explorations of the Blake Ridge methane hydrate reservoir.

17:00 Business Meeting

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10th Deep-Sea Biology Symposium

Oregon Coast, U. S. A. August 25-29, 2003

Talks and Posters

Contributions in any field of deep-sea or midwater biology are welcome, but some sessions are expected to be organized around the following themes that have been suggested by participants:

Human impacts and exploitation of the deep sea
Reproduction and recruitment
Experimental community ecology
Physiological ecology of deep-sea and midwater animals
Biology of the deep Gulf of Mexico
History of deep-sea biology
Population dynamics and genetics
Benthic-pelagic coupling

Abstracts of both papers and posters are due on May 15, 2003 and should be submitted in electronic form, preferably by e-mail, directly to the chair of the organizing committee (cmyoung@darkwing.uoregon.edu) using the following format:

FORBES, E., and T.H. HUXLEY.
Department of Natural Sciences, University of Edinburgh, Scotland,
and University of London, U.K.

ABSENCE OF *BATHYBIUS* AS FURTHER EVIDENCE OF AN AZOIC
ZONE IN THE DEEP AEGEAN SEA

The primordial goop known as *Bathybius*, which has been found in many parts of the world ocean by recent expeditions, appears to be extremely rare in the oligotrophic waters of the deep Aegean Sea. We postulate that...

Specific Formatting Requirements

1. Please prepare and save your abstract as a WORD files and submit as a .doc file in P.C. format. If you use a Macintosh, please send two versions of the abstract, one in .doc format and one in .rtf format.
2. Body of the abstract (exclusive of title, authors and affiliations) should be fascinating but no more than 250 words in length.
3. Use 12-point Times New Roman font, italicizing scientific names and avoiding the use of unusual symbols wherever possible.



4. If you wish your paper to be considered for inclusion in one of the themes listed above, please indicate this a few lines below the body of the abstract.

Presentation Requirements

Projectors for powerpoint files, 35mm slides and overhead transparencies will be available in all sessions. Please bring your powerpoint presentation on a c.d. that can be read by a P.C., and test the presentation on a P.C. before arrival (*Jim Barry, Take Special Notice!*). We recommend that you use commonly available fonts. If video projection is required, please indicate this below the abstract. Videos should be converted to NTSC format on VHS tape prior to the meeting. If you feel you must use another format, please inquire about the availability of equipment far in advance of the meeting.

At present, it is expected that talks will be 20 minutes in length, with the last 5 minutes intended for questions and discussion. However, talk lengths may be adjusted in the final program to accommodate as many talks as possible or to provide flexibility to organizers of thematic sessions.

Posters may be in any format, but no more than 1 meter wide and 1.5 meters high. We expect to display posters throughout the meeting and to schedule a long poster session with no concurrent activities for viewing and discussion.

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10th Deep-Sea Biology Symposium

Oregon Coast, U. S. A. August 25-29, 2003

Excursion & Socials

Monday Night Social

A welcoming social will be held on the campus of [Southwestern Oregon Community College](#) following the last scientific sessions Monday. Shuttle busses will then be available to transport individuals without transportation to North Bend, Coos Bay or Charleston for dinner.

Tuesday Night

Dinner on your own... shuttle busses available for those without cars.

Wednesday Excursion

After lunch, delegates will board coaches for a two-hour sightseeing tour of the southern Oregon coast. The trip will terminate at Gold Beach, where we will board the famous "[Mail Boat](#)" jet boats for an excursion up the Rogue River. The mail boats, which were not always jet powered, have been delivering mail to remote river towns for more than 100 years. The Rogue River originates high in the Cascade range near Crater Lake, and has received the "Wild and Scenic River" designation by the U.S. government. Trained naturalists will help us observe the spectacular scenery and an assortment of wildlife. Dinner (an American Indian style barbeque) will be served at the midpoint of the river excursion. We will return to Coos Bay about 10:00 p.m.

Thursday Banquet

Apart from barns, school gymnasiums and the local casino, there are no halls on the southern Oregon coast large enough to host our group's gala banquet. We will therefore depart from tradition by holding a catered outdoor banquet on the campus of [OIMB](#). The setting, in the shadow of giant trees and near a meandering brook, is beautifully peaceful and protected from the blowing winds. A catered buffet will highlight freshly caught local seafoods and Oregon wines.

Informal Activities on your own

Southern Oregon is rich with outdoor activities that can be enjoyed before the symposium, after the symposium and during particularly boring sessions. These include hiking, camping, canoeing, kayaking, river fishing for



salmonids, "deep-sea" fishing, dune exploration on foot or 4-wheel drive vehicles, horseback riding on the beach, sightseeing, golfing, crabbing, clamming, tidepooling, etc. [Crater Lake National Park](#), an ancient volcanic cauldron filled with some of the most transparent water on earth, is about 4 hours from the conference venue along scenic routes punctuated with waterfalls and old growth forest. [Redwood National Park](#) in Northern California, with its impressive groves of Sequoia trees and scenic coastline is about 3 hours away. The entire Oregon coast, both north and south of the Coos Bay Area, is very beautiful and worthy of leisurely exploration. To explore the recreational and sightseeing resources of Oregon, please visit the following links:

[City of Coos Bay](#), [Coos Art Museum](#), [Bay Area Chamber of Commerce](#), [Whole Shebang Magazine](#), [Welcome to Oregon](#), [Southern Oregon Visitors Association](#), [Welcome to the Oregon Coast](#), [Oregon Citylink Coos Bay site](#).



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10th Deep-Sea Biology Symposium

Registration and Housing Form

Name: _____ Title: (Dr., Prof., Ms., Mr.) _____

Institution: _____

Mailing Address: _____

Telephone: _____ Fax: _____

E-mail: _____

Names of accompanying persons: _____

Housing Preference (check all that apply)

I will arrange my own hotel room or other accommodations:

I request on-campus accomodation at SWOCC or OIMB for the following nights:

August 24 25 26 27 28 29 30

On campus housing will be assigned in the order that requests are received. Please rank

(1st choice, 2nd choice, etc.) all housing units for which you would like to be considered:

Single occupancy room at SWOCC

Single occupancy room at OIMB

Double occupancy room at SWOCC

Double occupancy room at OIMB

Dormitory "room" at OIMB

I have requested double occupancy; please assign me a roommate

I have requested double occupancy and will arrange my own roommate

My roommate is registering and paying separately; his/her name is:

Registration and Housing Fees

Early Registration fee before June1 (\$240.00 regular; \$200.00 student) \$

Late Registration fee after June1 (\$270.00 regular; \$230.00 student) \$

On-campus housing deposit (\$50.00 x persons) \$

Banquet (\$40.00 x persons) \$

(includes excursion, reception, evening restaurant shuttles)

TOTAL REGISTRATION FEES & HOUSING DEPOSIT \$

Amount paid by check* (U.S. funds) \$ Date Mailed:

Amount paid by bank transfer** \$ Transfer Date:

(sorry... the University of Oregon does not accept credit cards)

**All checks should be made payable to Oregon Institute of Marine Biology and mailed to:*

Craig Young, P.O. Box 5389 Charleston, OR 97420

***Direct bank transfers should be made in U.S. Dollars to:*

Umpqua Bank, North Bend, Oregon

Routing Number: 123205054

Account Number: 550000277

Comment Line: make sure the bank includes your name!

Please check responses for accuracy then click this button to submit:

Thank you. Your registration and housing will be confirmed by e-mail.

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